

Site: Shiloh Church Road Site

Task: Excavation

Date: 9/13/19

Predicted Predominant Wind Direction: ENE

Predicted Maximum Wind Speed: 6 mph



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes: AC-5 assigned to Excavation Team.

Radionuclide Air Sampling
Daily Summary
Shiloh Church Road Site
Halifax County, Virginia

Date: 9/13/19

Predicted Predominant Wind Direction: ENE

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result	% Of Effluent Concentration Limit	Beta Result
Perimeter-1 - Southwest Perimeter	<4.09%	-1.08E-14	<210.24%	-1.83E-13

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of DAC	Alpha Result	% of DAC	Beta Result
AC-5 - Excavation Team	<0.09%	-5.75E-14	<9.75%	-5.80E-12

Comments:

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Air Sampling Unit: Radeco H-810 ERT-148

Calibrator Serial: N/A

Cal Due Date: N/A

α isotope of concern

Ra-226

β isotope of concern

Pb-210

Start Date/Time		9/13/19 9:20			Stop Date/Time				9/13/19 11:15					
					Total Liters				13,920					
Analysis Date/Time	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)	
9/19/19 10:23	143.1	120	120	79	66	-0.11	3.68E-14	-1.08E-14	4590	4544	-0.38	1.26E-12	-1.83E-13	
Final Result	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)	
9/19/19 10:23	143.1	120	120	79	66	-0.11	3.68E-14	-1.08E-14	4590	4544	-0.38	1.26E-12	-1.83E-13	
							% Eff Criteria:	<4.09%				% Eff Criteria:	<210.24%	

Notes: Elevated beta detection limit due to short run time, due to rain.

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Air Sampling Unit: AirCheck XR5000 AC-5

Dry Cal Serial: 132112

Cal Due Date: 7/11/20

Dry Cal Serial: 132112					Cal Due Date: 7/11/20					α isotope of concern			Ra-226		β isotope of concern			Pb-210	
Pre Flow Rate (LPM)		4.670					Post Flow Rate (LPM)					4.683							
Start Date/Time		9/13/19 9:20					Stop Date/Time					9/13/19 16:13							
							Total Liters					1809.7							
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
9/18/19 13:45		117.5	120	120	75	66	-0.08	2.77E-13	-5.75E-14	4631	4441	-1.58	9.75E-12	-5.80E-12					
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
9/18/19 13:45		117.5	120	120	75	66	-0.08	2.77E-13	-5.75E-14	4631	4441	-1.58	9.75E-12	-5.80E-12					
								% DAC:	<0.09%				% DAC:	<9.75%					

Notes: Assigned to Excavation Team.